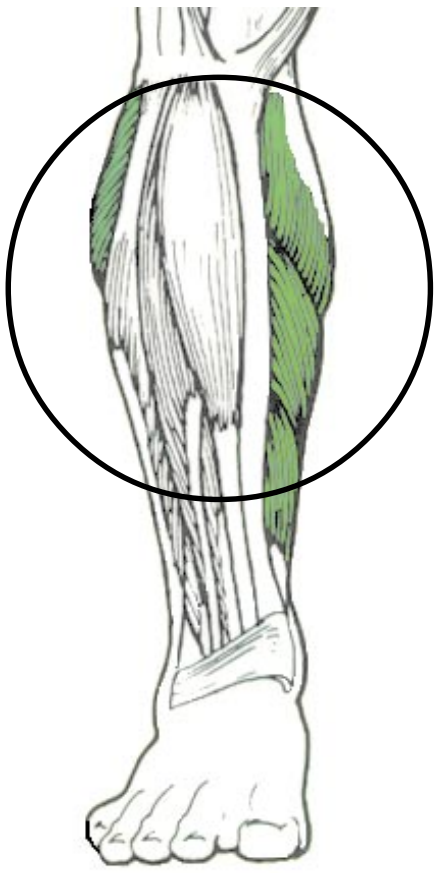
WHAT ARE SHIN SPLINTS?



RehabWorks

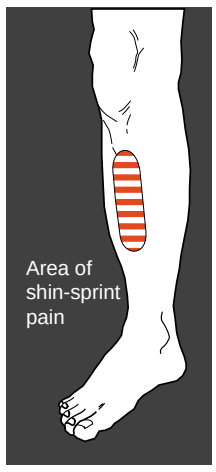
What Are SHIN SPLINTS?

Shin splints are something that we will have to suffer through at one time or another. Most of us will use the term shin splints to describe a sharp and annoying pain found along the shin bone (tibia). This catchall phrase for pain in the lower leg is usually brought on by exercise or athletic activity. The pain is usually due to the inflammation of the muscles or tendons, and/or injury to the bone.

Signs & Symptoms

Anterior Shin Splints: Pain in front of the lower leg. Pain radiates down the front and outer side of the leg. This type of Shin Splint is the most common.

Posterior Shin Splints: Pain along the back and inner side of the lower leg and ankle.



Causes

The most common cause for shin splints is training errors and abnormal biomechanics. Inflammation of the muscles, tendons and covering to bone (periosteum), usually occur due to an imbalance of the calf muscles (which pull the foot down) and the shin muscles (which pull the foot up). Shin splints are most commonly found with impact activities such as walking, jogging, and aerobics. Both forms of shin splints can occur from doing too much exercise without appropriate rest. The pain usually develops gradually with exercise and subsides with rest. All exercise should consist of a slow progressive start that increases in frequency and intensity over a long period of time. A sudden jump in intensity and frequency, overloads your ability to heal during rest, and injury may result. The following is a list of additional causes for shin splints:

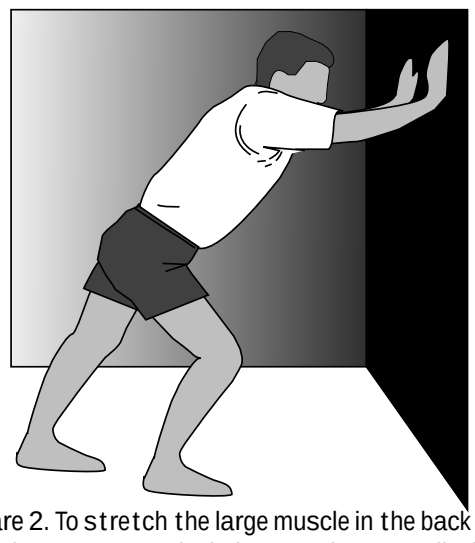
1. Poor physical conditioning
2. Failure to warm up
3. Improper running form
4. Change of running surface
   EXAMPLE: Soft to hard; flat to hilly
5. Poor footwear
6. Weak arches / faulty foot mechanics
7. Returning too soon from an injury

How to Prevent Shin Splints

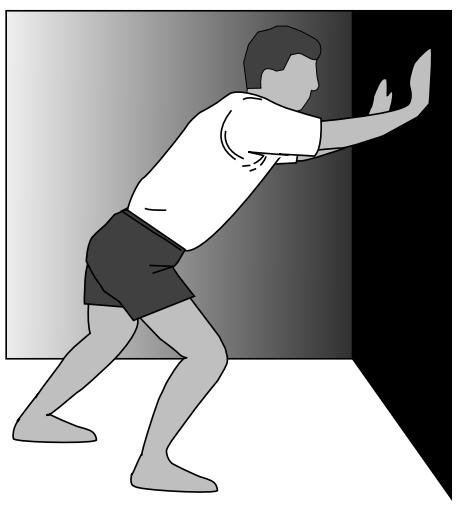
If you have "Shin Splints" or pain in the lower leg area around the tibia and its attaching muscles, you are most likely doing too much, too fast, too soon. Your body is trying to tell you to slow down. This inflammatory condition improves with adequate rest. In addition, you will want to comply with the following recommendations to speed your recovery and prevent further relapses:

Surfaces: Avoid hard and uneven surfaces-use soft surfaces such as dirt, sand, grass or rubber tracks for jogging, running and walking.
Warm-up: Warm up adequately before exercise or competition. Keep shins warm during exercise. EX: Wear warm up pants in cooler climates.
Stretching: DO NOT BOUNCE! Bouncing tightens and can tear muscles. Stretch slowly. Execute a sustained stretch. Stretch leg muscles by dorsiflexing (toes up) and plantarflexing (pointing toes down) . (See figures 2 and 3). Also make sure you stretch out after exercise.
Footwear: Cheap shoes are not a bargain. Invest in good quality shoes with a good arch, proper heel support, good heal counters, a wide enough toe box and a resilient sole. Buy your foot wear in the evenings when your feet are the largest.

(continued on the other side)



Figuare 2. To stretch the large muscle in the back of your calf (the gastrocnemius), lean against a wall with one foot forward. Keep your back leg straight, heel down. Bend your front knee and lean into the wall. You should feel tightness, not pain, in the back of your calf. Hold for 10 seconds, then stretch with the other leg forward. Do this stretch 5 to 10 times on each side, two to three times a day.



Figuare 3. To stretch the underlying calf muscle (the soleus) and your heel cord (the Achilles tendon), use the same position as in figure 2. When you lean forward, however, bend both knees, keeping both heels to the floor. You should feel tightness, not pain, in the sides of your back calf. Hold for 10 seconds, then stretch with the other leg forward. Stretch 5 to 10 times on each side, two to three times a day.

Make sure you break in your new shoes around the house or at work for about two weeks before you use them for exercise or competition purposes. Also, check the wear on the soles of your shoes. If there is uneven wear, it may be an indication of improper biomechanics.

What To Expect:

If pain persists for a period of time and the signs and symptoms do not diminish, then it is important to visit your physician. A medical history should be taken by your doctor along with X-rays of your lower legs, knees, and ankles.
Time frame:

Complete cure requires rest and slow rehabilitation. Total time may range from 2 weeks to 2 months. Tough competition or intense physical activity should be delayed until you can exercise regularly for 4 to 6 weeks without pain.
Possible Complications:

* Similar symptoms can be cause by stress fractures or increased pressure caused by constricted tissue covering muscles or nerves.

* Prolonged healing time, if activity is resumed too soon.

* Inflammation and arthritic changes in nearby joints (such as ankle, knee, hip, back) caused by changed gait and posture due to lower-leg pain.

How To Treat:

REST!!!! Rest is the most important treatment for "Shin Splints". Take the time out to let your body heal. This means a dramatic decrease in both frequency and duration of exercise-usually a 50-90% drop in duration, and doubling or tripling the time between workouts. Stop your exercise until you can resume without pain. If you have pain with walking, then don't try to run.

ICE MASSAGE! Use an ice massage. Fill a Styrofoam cup with water and freeze it. Simply peel the cup away from the ice starting at the bottom so that the ice protrudes from the cup. Massage the painful area firmly for about 7 to 10 minutes, 3 to 4 times a day. The area of massage should be slightly larger then the area of pain. Do this before and after workouts. Start to use heat after pain has subsided and there is no discomfort during or after exercise. Use a warm whirlpool if available.

DEEP TISSUE MASSAGE: Deep tissue massage is perhaps one of the most useful techniques for getting rid of shin splints. You yourself can massage the area gently to provide comfort and to decrease swelling. The thickened, tight areas within the muscles can be broken down and smoothed out.

If pain persists and doesn't go away after treatment then it is important to consult your Physician, Athletic Trainer, and/or Physical Therapist. For more information please contact the RehabWorks program located in the O&C Fitness Center at 867-7829.

Sources: Medical Data Exchange
University of Cincinnati Sports Medicine Center
The Physician and Sports Medicine (April 94)

KSC FITN Center